******* CONFIDENTIAL *******
******* PREDECISIONAL DOCUMENT *******

2122024

SUMMARY SCORESHEET FOR COMPUTING PROJECTED HRS SCORE

SITE NAME: Alemany Housing Project

CITY: San Francisco COUNTY: San Francisco

EPA ID #: CAD983620642 EVALUATOR: Tracy A. Faulkner

JOB #: 62210.88 SCORE DATE: January 27, 1993

LATITUDE: 37°43'57" N LONGITUDE: 122°25'04" W T/R/S 2S / 5W /

THIS SCORESHEET IS FOR A: ☒ PA ☐ SI ☐ ESI ☐ SI Sum ☐ PA Sum ☐ Other (Specify)

RCRA STATUS (check all that apply):
☐ Generator
☐ Small Quantity Generator
☐ Transporter
☐ TSDF
☒ Not listed in RCRA Database as of (date of print out) 7/31/92

STATE SUPERFUND STATUS

☐ BEP (date) ☐ WQARF (date)

☒ No State Superfund Status (date)

	S pathway	S^2 pathway
Groundwater Migration Pathway Score (S_{gw})	*	*
Surface Water Migration Pathway Score (S_{sw})	*	*
Soil Exposure Pathway Score (S_s)	100	10,000
Air Migration Pathway Score (S_a)	3.03	9.18
$S_{gw}^2 + S_{sw}^2 + S_s^2 + S_a^2$		10,009.18
$(S_{gw}^2 + S_{sw}^2 + S_s^2 + S_a^2)/4$		2,502.30
$\sqrt{(S_{gw}^2 + S_{sw}^2 + S_s^2 + S_a^2)/4}$		50.02

Pathways not assigned a score (explain):

* (See HRS Rationale for Details)

SOIL EXPOSURE PATHWAY SCORESHEET

Factor Categories and Factors

RESIDENT POPULATION THREAT

Likelihood of Exposure	Maximum Value	Projected Score	Rationale	Data Qual.
1. Likelihood of Exposure	550	550	S-1	H
Waste Characteristics				
2. Toxicity	a	10,000	S-2	H
3. Hazardous Waste Quantity	a	100	S-3	D
4. Waste Characteristics	100	32		
Targets				
5. Resident Individual	50	45	S-4	H
6. Residential Population				
6a. Level I Concentrations	b	0		
6b. Level II Concentrations	b	396	S-5	E
6c. Population (lines 6a+6b)	b	396		E
7. Workers	15	5	S-6	H
8. Resources	5	0	S-7	E
9. Terrestrial Sensitive Environments	c	0	S-7	E
10. Targets (lines 5+6c+7+8+9)	b	446		
Resident Population Threat Score				
11. Resident Population Score (lines 1x4x10)	b	7,849,600		

NEARBY POPULATION THREAT

Likelihood of Exposure				
12. Attractiveness/Accessibility	100	100	S-8	H
13. Area of Contamination	100	60	S-9	E
14. Likelihood of Exposure	500	375		
Waste Characteristics				
15. Toxicity.	a	10,000	S-2	H
16. Hazardous Waste Quantity	a	100	S-3	E
17. Waste Characteristics	100	32		
Targets				
18. Nearby Individual	1	0	S-10	D
19. Population Within 1-Mile[e]	b	47.6	S-11	D
20. Targets (lines 18+19)	b	47.6		

SOIL EXPOSURE PATHWAY SCORESHEET

(Continued)

Factor Categories and Factors

Nearby Population Threat Score	Maximum Value	Projected Score	Rationale	Data Qual.
21. Nearby Population Threat (lines 14x17x20)	b	571,200		

SOIL EXPOSURE PATHWAY SCORE

22. Soil Exposure Pathway Score (Ss), [lines (11+21)/82,500 subject to a maximum of 100]	100	100

Nearby Population Targets

Distance (miles)	Total Population Within Distance Ring	(P) Distance-Weighted Population Values (Table 5-10)
0 to 1/4	3,464	130
>1/4 to 1/2	1,261	20
>1/2 to 1	36,791	326
	Sum (P)	476

Potential Population Threat factor value = $\frac{\text{Sum (P)}}{10}$ = 47.6

a Maximum value applies to waste characteristics category.
b Maximum value not applicable.
c No specific maximum value applies to factor. However, pathway score based solely on sensitive environments is limited to a maximum of 60.
d Do not round yo nearest integer.
e Use additional tables.

AIR MIGRATION PATHWAY SCORESHEET

Factor Categories and Factors

Likelihood of Release	Maximum Value	Projected Score	Rationale	Data Qual.
1. Observed Release	550	0	A-1	E
2. Potential to Release [e]				
2a. Gas Potential	500	0	A-2	E
2b. Particulate Potential	500	280	A-3	E
2c. Potential to Release (higher of lines 2a and 2b)	500	280		E
3. Likelihood of Release (higher of lines 1 or 2c)	550	280		E
Waste Characteristics				
4. Toxicity/Mobility	a	8	A-4	E
5. Hazardous Waste Quantity	a	10	A-5	E
6. Waste Characteristics (lines 4x5, then use table 2-7)	100	2		E
Targets				
7. Nearest Individual	50	20		E
8. Population [e]				
8a. Level I Concentrations	b	0	A-1	E
8b. Level II Concentrations	b	0	A-1	E
8c. Potential Contamination [e]	b	425.5	A-6	E
8d. Population (lines 8a+8b+8c)	b	425.5		E
9. Resources	5	0	A-7	E
10. Sensitive Environments [e]				
10a. Actual Contamination	c	0		E
10b. Potential Contamination	c	0.018	A-8	E
10c. Sensitive Environments (lines 10a+10b)	c	0.018		E
11. Targets (lines 7+8d+9+10c)	b	445.7		E
Air Pathway Migration Score				
12. Air Pathway Migration Score (Sa) [(lines 3x6x11)/82,500]	100	3.03 [d]		

a Maximum value applies to waste characteristics category.
b Maximum value not applicable.
c No specific maximum value applies to factor. However, pathway score based solely on sensitive environments is limited to a maximum of 60.
d Do not round yo nearest integer.
e Use additional tables.

AIR PATHWAY CALCULATIONS

2. Potential to Release

Gas Potential to Release

	Source Type (Name)	Gas Contaminant Factor Value (Table 6-3)	Gas Source Type Factor Value (Table 6-4)	Gas Migration Potential Factor Value (Table 6-7)	Sum	Gas Source Value
		(A)	(B)	(C)	(B+C)	A x (B+C)
1.						
2.						
3.						
4.						
				Gas Potential to Release Factor Value (Select the highest Gas Source Value)		

Particulate Potential to Release

	Source Type (Name)	Particulate Contaminant Factor Value (Table 6-3)	Particulate Source Type Factor Value (Table 6-4)	Particulate Migration Potential Factor Value (Table 6-7)	Sum	Particulate Source Value
		(A)	(B)	(C)	(B+C)	A x (B+C)
1.	Lead in topsoil	10	22	6	28	280
2.						
3.						
4.						
				Particulate Potential to Release Factor Value (Select the highest Particulate Source Value)		280

AIR PATHWAY CALCULATIONS

(Continued)

8. Particulate Potential to Release

Distance (miles)	Total Population Within Distance Ring	(A) Distance-Weighted Population Value (Table 6-17)
On a source (0)	396	522
>0 to 0.25	3,464	1,304
>0.25 to 0.5	1,261	88
>0.5 to 1.0	36,791	834
>1.0 to 2.0	140,767	833
>2.0 to 3.0	124,347	375
>3.0 to 4.0	172,857	299
	Sum of (A) =	4,255

Air Potential Contamination Factor Value = $\frac{\text{Sum of (A)}}{10}$ = 425.5

10. Sensitive Environments

Wetland or Type of Sensitive Environment	(A) Sensitive Environment Rating Value (Table 4-23)	(B) Wetland Rating Value (Table 6-18)	(A+B)
	Actual Contamination Factor Value [sum (A+B)]		

AIR PATHWAY CALCULATIONS

(Continued)

Potential Contamination

Wetland or Type of Sensitive Environment	(A) Sensitive Environment Rating Value (Table 4-23)	(B) Wetland* Rating Value (Table 6-18)	Distance (miles)	(DW) Distance Weights (Table 6-15)	DW x (A+B)
6 Sensitive Env.	75	--	4	0.0014	0.11
9 Sensitive Env.	50	--	4	0.0014	0.070
					0.18

Potential Contamination Sensitive Environments Factor Value = $\frac{\text{Sum of DW x (A+B)}}{10} = 0.018$

* Only assign a Wetland Rating Value once for each Wetland within a distance category.

HRS Rationale
Alemany Housing Project
CAD983620642

Soil Exposure Pathway:

S-1: The Alemany Housing Project consisting of 25 buildings (including one day care center), several common turf areas, five playgrounds, and a roadside area approximately 8 feet south of the buildings (site). The site is approximately 8 acres (350,000 square feet). Soil contamination is detected in the soil planters which are flush with the site buildings, common turf areas, and playgrounds. Lead contamination was also detected in soil north of Alemany Boulevard along the roadway south of the buildings. One hundred and seventy-one soil locations were sampled within the site property boundaries. The highest concentration of total lead at the site was measured in sample CT14A. This sample was taken from the T14 turf area northwest of Building 26. The total lead concentration of this sample was 3,600 parts per million (ppm). The highest soluble lead concentration was measured at 36 ppm in sample DB12B. This sample was taken in the planter area of Building 12.

According to the San Francisco Housing Authority, soil measuring above 1,000 ppm of total lead has been remediated through soil excavation and removal activities. Total lead concentrations of 500 ppm or more in soil in the planter areas have also reportedly been removed. However, a remediation report, including post-excavation sampling, has not been made available.

Soil in several areas at the site was not excavated. A soil sample taken from turf area 15 (T15), adjacent to Building 25, contained a lead concentration of 995 ppm. Lead contaminated soil continues to exist along the roadway adjacent to Alemany Boulevard. Lead contamination in soil samples taken in this area ranges from 552 ppm to 844 ppm. All lead contaminated soil is within 200 feet of a resident and/or day care center.

There are no background data available for lead contaminated soil in the vicinity of the site or in the city of San Francisco.

S-2: Toxicity for lead is 10,000.

S-3: Calculated as follows: 350,000 sq ft/34,000 (Tier A)= 10.3
A value of 100 was used for the Hazardous Waste Quantity based on evidence of a Level II lead contamination soil which is exposed to residents.

S-4: Approximately 272 people currently live on the site property within 200 feet of the contaminated soil areas. When building rehabilitation is complete, approximately 396 people will live within 200 feet of the contaminated area. The day care center will service approximately 20 children when rehabilitation of the building is complete; however, the day care attendees are all residents of the housing project. There are two full-time workers on-site for the San Francisco Housing Authority (SFHA).

S-5: Approximately 272 people currently live at the site. To estimate the total population which will occupy all buildings once rehabilitation is complete, the

current population (272) was divided by the total number of bedrooms in the occupied buildings (250). [272 people/250 bedrooms] = 1.09 people/bedroom

Based on this value (1.09 people/bedroom) the total population was estimated for the remaining bedrooms (114), once rehabilitation of the additional buildings is complete. [114 x 1.09] = 124 more people are anticipated to occupy the buildings.

Therefore a total population for the site is: [272 + 124] = 396 people.

S-6: The SFHA employs two workers at the site.

S-7: There are no resources or terrestrial sensitive environments at the site.

S-8: The site is considered attractive because there are several turf areas/playgrounds where children play on a daily basis. Within the confines of the property, these areas are designated recreational areas. One mile northwest of the site, St. Mary's playground has a public baseball field. Therefore, this site has an attractiveness value of 100.

S-9: The area of exposed soil contamination is estimated at 350,000 square feet. According to Table 5-7, this corresponds to a factor value of 60.

S-10: Nearest individual factor is given a value of 0 because the resident individual exposure was evaluated for Level II concentrations.

S-11: Population values are based on GEMS 1980 census data. See HRS Scoresheets for population values.

Air Migration Pathway:

A-1: There has been no documented observed air release of contaminants at the Alemany Housing Project.

A-2: Inorganic lead is not considered a gaseous substance.

A-3: Lead contamination in soil was detected in the top 24 inches. There is a potential for particulate release through dusting. See particulate potential calculations in HRS Scoresheets.

A-4: Toxicity for lead is 10,000; mobility for the San Francisco County is 0.0008.

A-5: The entire site is considered to have lead contaminated soil. The area is of the site is approximately 250 feet wide and 1,400 feet long (350,000 square feet). The calculation is 350,000 sq ft/34,000 (Tier A)= 10.3. The Hazardous Waste Quantity is 10.

A-6: Approximately 272 people currently live within 200 feet of the contaminated soil areas. When building rehabilitation is complete, approximately 396 people will live within 200 feet of the contaminated area. The day care center will hold approximately 20 children, and there are two workers at the site.

A-7: There are no resources within 0.5 miles of the site.

A-8: Sensitive Environment	Distance	Value
San Bruno Mountains	4 Miles	
• Mission Blue Butterfly (*Icaricia Icarioides missionensis*)		75
• San Francisco Campion (*Silene verecunda ssp verecunda*)		50
• San Bruno Mountain Manzanita (*Arctostaphylos imbricata*)		75
Lake Merced/Harding Park	4 Miles	
• California Red-legged Frog (*Rana Aurora draytoni*)		50
• California Black Rain (*Laterallus jamaicensis coturniculus*)		75
• Bank Swallo (*Riparia riparia*)		50
• Tidewater Goby (*Eucyclogobius newberryi*)		50
• San Francisco Owl's-Clover (*Orthocarpus floribundus*)		50
Guatelupe Hills	3 Miles	
• Callippee Silverspot Butterfly (*Speyeria callippee callippe*)		50
Bayview Hills/Park	3 Miles	
• Diablo Rock-rose (*Helianthella castanea*)		50
Lone Mountain	2.5 Miles	
• San Francisco Lessingia (*Lessingia germanorum var germanorum*)		75
• Presidio Manzanita (*Arctostaphylos hookeri ssp ravenii*)		75
Bayshore Blvd.	2 Miles	
• San Francisco Forktail Damselfly (*Ischnura gemina*)		50
Protrero Hills	2.5 Miles	
• Adobe Sanicle (*Sanicula maritima*)		50
Laurel Hill Cemetery	3 Miles	
• Laurel Hills Manzanita (*Arctostaphylos hookeri ssp franciscana*)		75
• Marin Dwarf Flax (*Hesperolinon congestum*)		75

Groundwater Migration Pathway:

The groundwater migration pathway was evaluated qualitatively, not quantitatively. There are no drinking water targets within 4 miles of the Alemany Housing Project.

Surface Water Migration Pathway:

The surface water migration pathway was evaluated qualitatively, not quantitatively. There is no surface water draining from the site. There are no sensitive environments or resources at the site. The nearest sensitive environment

is 2 miles downstream from the site. This environment is Bayshore Boulevard where the San Francisco forktail damselfly (*Ischnura gemina*) has been observed.